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MS APPEAL BRIEF - PATENTS

2001-1251

IN THE U.S. PATENT AND TRADEMARK OFFICE BEFORE  
THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of	Appeal No.
Maria Anna WUBBEN et al.	Conf. 1786
Application No. 08/776,321	Group 1761
Filed April 15, 1997	Examiner C. Sherrer

PECTINS AS FOAM STABILIZERS FOR  
BEVERAGES HAVING A FOAM HEAD

**APPEAL BRIEF**

MAY IT PLEASE YOUR HONORS:

**1. Real Party in Interest**

The real party in interest in this appeal is the assignee, HEINEKEN TECHNICAL SERVICES B.V. of Amsterdam, the Netherlands.

**2. Related Appeals and Interferences**

Appellant is unaware of any other appeal or interference that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**3. Status of Claims**

Claims 52-57 are pending, previous claims 1-51 having been canceled. The present appeal is taken from the final rejection of all of the pending claims 52-57.

**4. Status of Amendments**

No amendment was filed subsequent to the final rejection on appeal.

**5. Summary of Invention**

The invention is a method for improving the foam head stability of beer. In particular, appellants have discovered that foam head stability of beer can be improved by the use of a hop extract that is selectively enriched in hop pectin (see page 2, line 30 through page 3, line 3 of the specification). The pectin-rich hop extract is added to the beer preparation after commencement of wort boiling (page 4, lines 10-15), but not earlier than 30 minutes before the end of wort boiling (see original claim 5).

Pectin being composed chiefly of galacturonic acid units, the anhydrogalacturonic acid (AUA) content of the hop extract provides a measure of the pectin content thereof (see, for example, page 8, lines 14-23). Whereas native hops contain only about 1-3% on a dry weight basis pectin (page 5, line 11), the hop extract used in the claimed method contains at least 20% AUA on a dry weight basis of extracted material (see, e.g., Table 5 on page 17 of the specification), such that the hop extract used in the claimed method is greatly enriched in hop pectins relative to native hops.

The inventors have discovered that the use of a hop extract as claimed provides foam stability in beer at least as good as that obtained using the prior art foam stability enhancer montol, without the drawbacks associated with montol, as discussed on page 2, lines 21-29 of the specification. When the hop extract

is used at sufficiently high purity of pectin, the foam head stability is even superior to that achieved with montol (see page 4, line 34 - page 5, line 2 of the specification). The invention is further advantageous in that these results are achieved using an extract of a material normally contained in beer, namely, hops (see page 2, line 34 through page 3, line 3 of the specification).

The present invention thus provides a method that is significant in improving the foam stability of beer, and hence its commercial value.

#### **6. Issues**

There are two issues presented for review in this appeal, namely:

1. Whether claims 52-57 are unpatentable under 35 USC 112, first paragraph, as being based on an insufficient written description in connection with the recitation that "at least 0.5 g per hectoliter" of the hop extract is added to the beer preparation; and

2. Whether claims 52-57 are unpatentable as being based on a non-enabling disclosure because they do not recite in the claims the method for making the hop extract starting material used in the claimed method.

#### **7. Grouping of Claims**

As to the written description rejection, the claims are grouped separately, in that the rationale on which the rejection

is based plainly does not apply to the dependent claim 55, which claim does recite an upper limit to the weight range of extract to be added. Indeed, it is assumed that the inclusion of claim 55 in the rejection on the basis of an allegedly insufficient written description was inadvertent on the part of the Examiner.

As to the non-enablement rejection of claims 52-57, the claims are not grouped separately for purposes of this appeal.

8. **Argument**

1. Claims 52-57 Are Supported by a Sufficient Written Description

The issue presented by the written description rejection is whether the phrase "at least 0.5 g per hectoliter" as it relates to the amount of hop extract to be added to the beer preparation, finds sufficient basis in the specification as originally filed. The recitation obviously does not appear *ipsis verbis* in the application as filed, or else there would be no issue at all.

In cases presenting the question of whether a numerical range not appearing identically in the specification as filed is nevertheless adequately supported by the specification as filed, the case of *In re Wertheim*, 191 USPQ 90 (CCPA 1976) is frequently controlling. The present case is believed to be no exception. Because of the centrality of that case to the written description issue on appeal, a copy of the *Wertheim* decision is attached to this brief for the convenience of the Board.

*Wertheim* is interesting in relation to the facts of the present case, in that, in *Wertheim*, there were two claims on appeal with no upper limit to a recited numerical range. The rejection of one of those claims was affirmed, whereas the rejection of the other was reversed.

In particular, claim 1 in *Wertheim* recited a "solids level of at least 35%", which was held not to be adequately supported by the disclosure of a Swiss priority application describing only a 25-60% solids content range. See 191 USPQ at 97.

By contrast, claim 6 in *Wertheim* recited a particle size of "at least 0.25 mm", which recitation was deemed to be supported by an adequate written description, notwithstanding that the only numerical range set forth in the specification was a range of 0.25 to 2.0 mm. See 191 USPQ at 99.

Therefore, the propriety of the instant written description rejection regarding the "at least 0.5 g per hectoliter" recitation in claim 52 turns on whether the facts of this case with respect to that limitation are more akin to those of claim 1 in *Wertheim*, or instead whether they are more akin to those of claim 6.

It is clear that the facts of this case with respect to the "at least 0.5 g per hectoliter" recitation of claim 52 are much closer to the facts regarding claim 6 in *Wertheim*, such that the written description rejection of present claims 52-57 should be reversed.

In particular, in *Wertheim*, the recitation of "at least 0.25 mm" was held to be adequately supported by the disclosed range of 0.25 to 2.0 mm, because the specification made it reasonably clear that the upper limit of that range was not critical to the invention (see the discussion at 191 USPQ at 99). That is precisely the case for the amount of hop extract to be added in the claimed method.

In particular, the disclosure at page 4, lines 22-28 of the present specification is quite similar to the disclosure that supported the recitation in question in claim 6 of *Wertheim*. That disclosure is reproduced in its entirety as follows:

The amounts of pectin that have to be added in order to achieve the improved stability can readily be determined by a skilled person. They will depend on, inter alia, the purity of the pectin preparation and the type of beer to which the preparation is added. In general, the amount of preparation to be added will be between 0.5 and 20 g/hl, preferably around 3 g/hl.

Plainly, therefore, the numerical range for the amount of extract to be added according to the invention is not considered to be critical either with respect to the upper or lower limit. This is evidenced by the above-quoted language, and in particular by the use of the phrase "in general" to introduce the numerical range, only after it is disclosed that the amount of pectin to be added "can readily be determined by a skilled person" and that the amount will depend on a variety of factors.

That there is no criticality to any upper limit of hop extract to be added according to the claimed method, is further confirmed with reference to the original claims. In particular, original claim 1 recites a method for improving the foam head stability of beverages, comprising adding pectins thereto, without any limitation as to either a minimum or maximum amount of pectin to be added. It is only when you reach original claim 7 that a weight range of pectin to be added is recited.

Therefore, on the facts of the present case, it is believed to be apparent that the rejection of claims 52-57 as allegedly being based on an insufficient written description should be reversed, on the rationale applied to claim 6 in the attached *Wertheim* case.

2. Claims 52-57 Are Supported by an Enabling Disclosure

This rejection is based on the Examiner's belief that the process for producing the hop extract starting material of the present claims is "critical" to the practice of the invention, and therefore must be recited in the claims directed to the process for improving the foam head stability of beer. There is no dispute that the specification provides an enabling disclosure of how to produce the hop extract used in the claimed process, but rather only whether the claims themselves must recite an

upstream process by which the hop extract starting material is prepared.

It is believed that the position taken in the final rejection on this point is mistaken both as to the facts and the law.

On the facts, the Examiner contends that the Bekkers Declaration submitted with the amendment of December 29, 2003 "discloses that the HOELLE process (described in U.S. Patent No. 3,222,181) does not provide an extract anywhere near the amount claimed, even though it is the aim of HOELLE to extract all of the pectin." This is the sole basis on which the Examiner concludes that the process for making the hop extract is "critical" to the practice of the claimed invention.

However, the Bekkers Declaration is not directed to the total amount of pectin extracted by the HOELLE process, but rather to the relative proportion of pectin in the extract. The Bekkers declaration establishes that the HOELLE process does not teach a hop extract selectively enriched in hop pectin, as is used in the present claims. Indeed, it is clear that HOELLE does not even attempt to produce an extract selectively enriched in hop pectin, given that its aqueous extract (containing any extracted pectin together with a variety of other water-soluble materials) is combined with the non-pectin-containing



organic extract at a ratio of about 1 part aqueous extract to 3 parts organic extract. Therefore, the Bekkers Declaration merely establishes that HOELLE does not teach a hop extract selectively enriched in pectin, as claimed. The Declaration therefore does not support the Examiner's contention that the process for producing the hop extract is in any way "critical" to the claimed method of improving foam head stability in beer, which merely uses the hop extract as a starting material.

Indeed, we note that a method for producing the hop extract to be used in the claimed invention had been previously claimed independently in original claim 13. In an Official Action mailed December 3, 1997, the Examiner rejected that claim for obviousness based on a combination of references, in which the "Food Colloids" reference of record was relied upon as allegedly disclosing that the then-claimed extraction technique was conventional - a position believed to be inconsistent with the non-enablement rejection now on appeal.

As to the law, the Examiner relies upon the case of *In re Mayhew*, 188 USPQ 356 (CCPA 1976) in support of the proposition that the claims on appeal directed to the method of improving foam head stability in beer must recite the distinct upstream process by which the starting material hop extract is prepared. However, *Mayhew* plainly

does not stand for any such proposition. In *Mayhew*, the claims omitted a step that was intermediate a pair of claimed method steps, and without which omitted step the claimed method admittedly could not be performed.

It is significant that the Court of Appeals for the Federal Circuit, in the case of *Amgen Inc. v. Hoechst Marion Roussel Inc.*, 65 USPQ 2d 1385 (Fed Cir 2003), recently construed the *Mayhew* case quite narrowly, in the course of distinguishing that case from the case before it. In particular, the Federal Circuit in *Amgen* held that a so-called "omitted" step in a method claim is objectionable under *Mayhew* only if the absence of the step would render the invention as claimed "wholly inoperative (meaning it simply would not work and could not produced the claimed product)." 65 USPQ 2d at 1402. That is plainly not the case for the present claims, in which the claimed method admittedly does work and does produce the claimed product.

Appellants respectfully submit that it is simply a bridge too far to use the enablement requirement as a pretext for seeking to require an applicant to recite, in a claim for performing a given method, an upstream method by which the starting material used in that process may be produced. It is instructive in this regard that the case of *In re Howarth*, 210 USPQ 689 (CCPA 1981) dealt with whether a patent specification contained an enabling


disclosure of how to make a starting material required for use in a claimed method; however, in that case, the only inquiry was whether the specification taught how to make the starting material - there was absolutely no suggestion that the claims needed to recite that process.

9. **Conclusion**

From the above discussion, it is believed to be apparent that neither of the rejections on appeal merits affirmance by the Board, but rather, that both of those rejections should be reversed. Such action is accordingly respectfully requested.

Respectfully submitted,

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10. **Claims on appeal**

52. A method for improving foam head stability in beer, comprising adding a hop extract containing at least 20% anhydrogalacturonic acid on a dry weight basis of extracted material, to a beer preparation after commencement of wort boiling and not earlier than 30 minutes before the end of wort boiling, said hop extract being added in an amount of at least 0.5 g per hectoliter of said beer preparation.

53. The method according to claim 52, wherein said hop extract is added not earlier than 10 minutes before the end of wort boiling.

54. The method according to claim 52, wherein said hop extract is added subsequent to wort boiling but prior to bright beer filtration.

55. The method according to claim 52, wherein said hop extract is added in an amount from 0.5 to 30 g per hectoliter.

56. The method according to claim 52, wherein said hop extract is made by extracting a by-product of a hop extraction process or by extracting hop bines.

57. The method according to claim 56, wherein said by-product is an extraction residue obtained from CO<sub>2</sub> extraction.